Winter 12-9-2003

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Abstract

Previous research on e-Learning in the business firms has remained a learner's characteristic perspective and even if the causes for learning performance have been clarified to some degree, these have not been practical research. However, the present study focuses in verification for the influential factors from an organizational context point of view on the individual leaning performance.

The results of this study are as following,

1)e-Learning operation strategies related with management strategies have significant positive relations with the individual learning performance.

2)Organizational atmosphere is significant partially. - Learning motivation of organization has significant positive relations with the individual learning performance. But Innovative disposition of organization is not significant.

3)Reward / evaluation system has significant positive relations with the individual learning performance.

The academic significant of the present study lies in that, while previous research on e-Learning has remained conceptual or perspective on individual(learner's) characteristic about training effect, the present study tried to approach from the organizational context standpoint.

Practical issues that the present study presents are that e-Learning managers should realize the importance of, and try to find ways to promote organizational learning motivation to adopt use of e-Learning system. Besides e-Learning operation strategies and a more practical reward / evaluation system should be implemented.

I. Introduction

Despite the changes in the world, the notion that companies exist for the pursuit of profit is the same. Corresponding to the fast paced environment, with a view to occupy a competitive advantage, we have raised our voices that we should accumulate and administrate intellectual capital into financial and material capital. The companies pursuing knowledge management, as a method of the knowledge management for the creation and transition of knowledge, seek learning in order to enhance the performance of their employees, departments, and their own companies. In other words, they aim at influencing the performance of their companies by attempting the creation of competitive advantages, future

intention, and business improvement through learning. This way, the best alternative to accumulate quality capital within an organization is considered e-Learning.[31]

However, the studies on e-learning so far have been mostly educational approaches, while their content were confined to the build-up, use, and operation of e-learning itself and very few studies have demonstrated and analyzed any factors which influence the practice of e-learning from an enterprise point of view.

Under these backgrounds, this study has its objective in inducing the influential factors of e-learning which many companies have recently been adopting with a greater recognition of its significance.

II. Literature Review

2.1 The Definitions of e-Learning

e-learning is identified to design, deliver, select, expand, and coach learning by utilizing technologies for all kinds of learning. This is not simple learning but utilizes Internet technology which delivers a variety of solutions for the enhancement of knowledge and performance. This is identified to include knowledge management or electronic performance supports beyond a simple on-line CBT (Computer Based Technology).[23]

'e' of e-learning means 'Effective, Global, Entertaining, Evolving, Educationally Sound, Exciting, Affordable, Expensive, User centric, Need to know, Enhancement, Collaborative, Extended, Accessible, Reliable e-Learning'. The definition of e-Learning is, in a different point of view, classified diversely by base technology, delivery method, use scope, etc but it is generally used having almost the same meaning as on-line education and cyber education.

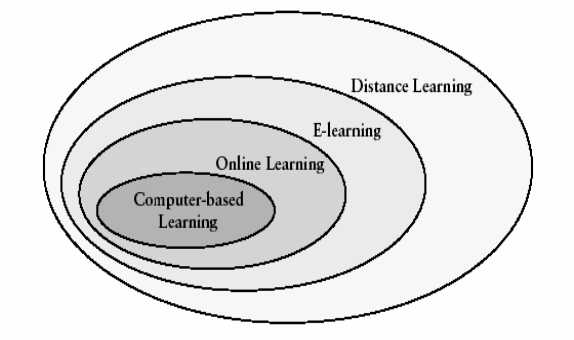

Figure 1. Subsets of Distance Learning [36]

III. Research Methodology

3.1 Method

As there are very few studies on the success factors in the enterprise of e-learning, we have decided to induce the influential factors of e-Learning by inquiring on the main factors of success and influence of many different fields covering e-learning, knowledge management, information systems, organization innovation, etc. This is because e-Learning is a sector belonging to knowledge management, while utilizing information systems and the innovation of organizations have recently developed in association with the issue of organizations creating knowledge and pursuing learning. Reflecting the definition of an organization's administration and innovation by Venkatraman, Loh & Koh(1994), it includes meanings covering an organizations' adopted change, the elements which bring changes to organizations, administration routine, and procedures, and an extensive view considering the association between organization and the external environment, etc.[15] Therefore, in the event that e-Learning is adopted, developed, and practiced within an organization, it should be interpreted in the same context.

Consequently, the consideration of influential factors in an organizations' innovation is required as a previous study of e-learning..

3.2 Participant

This study has been carried out with a purpose to discover the factors which influence the learning performance of learners when the members of an organization learn through e-Learning. Therefore the unit of analysis is individual.

For this study, we made questionnaires for the companies chosen at random in order to test the reliability and validity of the measuring tools. Besides this, considering that e-Learning can be carried out in the computerized sector, we did not confine ourselves in targeting a specific industry. As a result of doing e-mail surveys of 300 people totally who have ever experienced or currently experience e-learning, 277 of the responses were returned in 2 weeks. Among them 257 responses were used for the material analysis except for 20 untruthful responses. The questionnaires were composed of 74 questions and every category used a single balanced 5 point Likert scale for the simplification of answering. Also the responders were anonymous. The collected data was worked on at SPSS 11.0 program.

3.3 Independent variables

3.2.1 The Association of Operational Strategies of e-learning and Management Strategies

As a result of the previous study, a great deal of references emphasize on the importance of strategy. [21]

Chandler identifies that strategy is a basic long-term goal, purpose, and the crystallization of both allocation of resources and behavior patterns in order to achieve them while Ansoff defines it as the decisions, rules and guidelines of deciding the scope of an organization and its growth direction.[2] In addition, Porter (1985) expands on this meaning by stating that it includes the steps organizations take for competitive gains.

Company education is eventually designed to achieve the high performance level a company aims at by fostering its employees' individual capacity and the company in the long run can specify the strategy of the company. Therefore, the meaning of strategy in this study is dealt with as a guideline which encourages the members of an organization to perform targets for organization's goals in order to gain a competitive advantage in the transition environment. Accordingly, the association of e-Learning strategy with other management strategies in an organization has been highly regarded. We have decided that not a temporary measure but a long-term operational strategy is required to gain the source of competitiveness.

For the association of strategy between e-Learning and management, we have measured the existence of a direction which can measure whether the practice of e-learning is helpful for the organization's goals and the existence of a complementary integration between off-line classroom education and on-line e-learning.

3.2.2 Organizational Atmosphere

The distinction of culture and the atmosphere of an organization has not been clarified. Yet, according to Ashforth the organization culture is conceptually identified as a value proposition shared with the members of an organization whereas organizational atmosphere as a concept shared with the members of an organization. [3] In other words, organizational culture emphasizes basic values, propositions, artificial creation etc which influence each member of the organization and its collective behavior whereas an organizational atmosphere emphasizes the image of the organization of which the members sense.[21] This study has induced two divided factors; one is learning motivation in which the members of an organization recognize their organizational atmosphere[10][19] and the other one is its innovative

tendency.[33]

Learning motivation means in what degree people recognize the necessity of information obtaining and sharing, and to what degree people comprehend the purpose of an organization's carrying out e-learning. Furthermore, they are measured by the degree of recognition that knowledge is competitive, the degree of comprehension shown in an organization that knowledge sharing is mutually profitable, the degree of knowledge obtaining desire, the degree of comprehending an organization's learning purpose, etc.

Rogers identifies innovation saying, "adopted and utilized ideas or practical policy or objects that individual or organization recognize as new" Havelock(1969) expands its scope of meaning saying "Utilization and diffusion of knowledge". Therefore, in this study the innovative tendency is identified as an inclination of utilizing and diffusing knowledge through the adoption of new systems. The innovative tendency is measured by the degree of positive and favorable feedback about the adoption of new systems, and the degree of creation and venture intention, etc.

3.2.3 Reward/ Assessment System

As a result of the previous study, both a reward or assessment system[31] has been proved as influential factors of knowledge management and information systems.

Therefore, we regard these as one factor. In this study, the reward or assessment system means the formalized, objective material and non-material reward provided internally by the organization which are directly involved with learners or organizations for the accomplishment of e-Learning as well as the systemization of assessment rules related to the degree of use.

Looking at the past case study on information systems, the indexes of the actual and intended use of system and users' attitude, etc were used for the measurement of success. Other perspectives focused on the measurement of cost or profits. Yet, as the accurate measurement of cost or profit is impossible, alternatively, the existence of a developed material reward system such as pay rises, incentives, etc, and the existence of a developed non-material reward system such as promotion, encouragement, recognition, etc have been measured. In addition to this, whether or not there are developed assessment systems of use frequency, of managing the type of used information, of voluntary use, of information satisfaction about the difference between seeking information and received information, and of information comprehension is important.

3.3 Dependent variables

As there are few case studies that clarify the direct or indirect influence of e-Learning to the performance of an organization, it seems to be hard to consider organization performance such as ROI or average profit growth rate, etc as dependent variables. Therefore, this study has been accomplished to discover the influential factors of the performance of individual e-Learning. Also dependent variables of each factor are defined as individual performance which includes user satisfaction [8][9] and the improvement of work performance.[8] The user satisfaction seems to be the more proper indication of the assessment of performance than the degree of utilization when the use of information systems is systematically and traditionally compulsory.

3.4 Hypothesis

H1: The association of strategies between e-Learning operation and company's management enhances the performance of individual learning.

H2-1: The organizational learning motivation enhances

the performance of individual learning through e-learning.
H2-2: The stronger the innovative tendency within an organization, the higher the performance of individual learning through e-learning.

H3: The well developed reward or assessment system of e-Learning enhances the performance of individual learning.

IV. Analysis

4.1 Analysis of Validity and Reliability

This study has been carried out on the factor analysis about concept validity in order to discover whether the abstract concepts that surveyors desired to measure were actually measured by proper measuring tools. In other words, we have carried out a factor analysis of concept validity in order to discover whether the manipulative definition of concepts was proper.

There are no absolute standards defining what degree of factor loading quantity can be meaningful to adopt as variables. Yet, 0.4 and above can be regarded as an average meaningful variable and above 0.5 is considered a very decisive factor.[30] Accordingly, we have arranged 0.4 of factor loading quantity for the distinction validity while excluding a variable of 0.344 which is clustered as a factor but reaching below the standard of factor loading quantity. Also, the result of measuring Kaiser-Meyer-Olkin(KMO) and Bartlett's Test for the validity proof of factor analysis showed Bartlett's test of Sphericity of 10394.926 and its significance level of .000, thus proving the factor analysis was proper. In addition, the measurement of KMO MSA(measure of sampling adequacy) of .921 (> α=0.5) appeared suitable to be selected as a variable for analysis.

Generally speaking, Cronbach's alpha coefficient showing 0.6 and above indicates relatively high reliability while allowing the analysis by integrating the entire variable as one measure.[30] In this study, all the questions showed relatively high reliability of 0.7 and above as a result of the reliability analysis.

V. Results

The results of this study are as follows.

Firstly, the association of strategy between e-Learning and company management which is a strategic factor of e-Learning appear to enhance learning performance. This indicates that when an organization has clarified its purpose of e-Learning and established a guideline of how to efficiently fit each member's ability into the organization individually it shows a high performance of learning.

Secondly, the result of the organizational atmosphere shows the most remarkable feature. The innovative tendency of an organization, covering knowledge management, information systems, organization innovation, etc which were presented in the existing references commonly as very important influential factors, have been declined. Instead, organizational learning motivation has been adopted. It is understandable that the recognition of the necessity of knowledge obtaining and sharing and having positive and active attitudes toward learning give relative significance to the performance of individual learning. However, regarding the fact that the organization's innovative tendency has been adopted as an influential factor can be interpreted in many different ways.

In other words, there are two possibilities estimated of two types companies both adopting e-Learning each with different innovative tendencies, or companies which adopt e-Learning in order to revive a new atmosphere because they have a weak innovative tendency. Therefore, a further study is required regarding this matter.

Thirdly, the reward or assessment system has been discovered as a meaningful factor of enhancing the

performance of individual learning. The original purpose of e-Learning was enabling learners to voluntarily learn without the restriction of time and space. Actually, reflecting that the reward or assessment system affects the performance of individuals, this shows that a certain degree of compulsory learning is required.

VI. Conclusion and Discussion

The significance of this study can be considered from both a theoretical and practical perspective. Firstly, regarding the theoretical perspective, the studies so far have been concentrating on the effect of education by the characteristics of learners whereas this study has tried an approach on an organizational perspective so that we could induce the factors targeting the field of organization management which is related to e-Learning. As a result of demonstration, in particular, the fact that organizational atmosphere appears to be a more significant factor for the development of strategies and systems indicates that Korean characteristics are reflected by the study sample.

Through the examination of three meaningful factors found in the companies which are practically carrying out e-Learning but the measurement of learning performance is impossible, we are able to present an indirect standard of assessing the success of e-Learning. Also, we have discovered an essential requirement enabling prospective companies which will accomplish e-learning to reduce any possible failure. Of course, these factors could not be sufficient. However, this could be utilized as a guideline for the organizations which fall behind but would like to save even a step.

The limitations of this study can be pointed out as follows. The assessment is desirable when carried out objectively but considering the features of e-Learning there are some difficulties of objective assessment, in which it is very hard to measure cost or profit in currency due to their intangibility and it takes time for learners to acquire knowledge rather than showing an instant learning performance, etc. Besides this, under the circumstance where there is no established method to measure the standardized performance by e-Learning, it is tough to eliminate many other extraneous variables when measured in ROI which is presented as a representative measuring standard. This is the reason this study has selected not organizations but individuals for its analysis unit. As we have considered learners' satisfaction and performance improvement as dependent variables, we believe that a further study which will discover any functional relation between an individual's learning performance and the performance of an organization is required. In addition, I hope more specified studies based on the result of this study will be accomplished in order to discover an association between organizational culture and learning.

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